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ABSTRACT

The purpose of this study was to determine what essential skills and spelling strategies first grade students use when spelling grade level and above grade level words and to determine whether students actually use strategies taught during spelling instruction. Eight first-grade students of varying spelling performance levels, including English-as-a-Second-Language (ESL) spellers, were engaged in spelling tasks, alphabet recognition, blending, and segmentation tests and were asked questions regarding their perceptions of various aspects of spelling. Student writing samples were collected and analyzed using the "First Steps Spelling Developmental Continuum" (1994) to help clearly profile each student's level of development. The data from the study showed that students of all performance levels, including ESL students, rely on letter sounds to spell both grade level and above grade level words. Low performing spellers also identified word families as a second strategy when spelling grade level words. The data also revealed that both low performing and high performing students relied on multiple strategies when spelling words. The reading program strongly influenced the spelling strategies used by students. Appendixes contain spelling lists, interview questions, assessment instruments, 2 charts of data, and student spelling samples. (Contains 33 references.) (Author/RS)

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Running head: SPELLING STRATEGIES OF FIRST GRADE STUDENTS

ED 441 251

Spelling Strategies Used by High and Low Performing First Grade Students

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June 2000

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Abstract

The purpose of this study was to determine what essential skills and spelling strategies first grade students use when spelling grade level and above grade level words and to determine whether students actually use strategies taught during spelling instruction. Eight first grade students of varying spelling performance levels, including English as a Second Language spellers were engaged in spelling tasks, alphabet recognition, blending, and segmentation tests, and asked questions regarding their perceptions of various aspects of spelling. Student writing samples were collected and analyzed using First Steps Spelling Developmental Continuum (1994) to help clearly profile each student's level of development. The data from the study showed that students of all performance levels including ESL students rely on letter sounds to spell both grade level and above grade level words. Low performing spellers also identified word families as a second strategy when spelling grade level words. The data also reveled that both low performing and high performing students relied on multiple strategies when spelling words. The reading program strongly influenced the spelling strategies used by students.

Table of Contents

Abstract	2
Introduction	5
Purpose	6
Major Question and Guiding Questions	7
Definitions	8
Delimitations and Limitations	9
Significance of Study	9
Review of Literature	10
Word Families	10
Memorization and Spelling Activities	11
Inventive spelling	13
Methodology	14
Research Design	14
Role of Researcher	15
Setting	15
Participants	17
Instruments and Materials	18
Spelling Pretest	18
Spelling Posttest	18
Writing Samples	20
Writing Developmental Continuum	20
Alphabet Recognition Task	21
Interviews	21
Phoneme Blending Test	22
Phoneme Segmentation Test	23
Findings	23
Case Studies	23
Allison	24
Brooke	24
David	25
Jorge	25
Jared	26
Kyle	27
Mary	28
Tanya	28
Guiding Questions	30
Question 1	30
Question 2	31
Question 3	32
Question 4	32

Question 5 33
Interview Questions 34
Question 1 34
Question 2 34
Question 3 35
Interview Spelling Task 35
Pre and Posttest Findings 37

Conclusions 39

References 46

Appendix 50

Spelling instruction is important because spelling is a complex process essential to literacy. To spell, students must use the sound-symbol knowledge they possess to reconstruct a word they have in their mind on paper. Spelling is an example of an academic area in which learning for the purpose of immediate recall is critical (Graham and Freeman, 1985). Hanna, Hodges and Hanna (1971) says, "Spelling ability is a learned behavior" (p. 109). It is important then as teachers that we provide and teach the best spelling strategies possible to our students so that they will be able to easily recall words when writing. Students need a strong basic foundation of skills to build upon as they progress developmentally and academically. It is critical that skills are taught to students that will aid them in their spelling. Research says that spelling instruction must be direct, especially for those students who are struggling with spelling (Graham and Miller, 1979).

If the argument is valid that the ability to spell is learned, then it would explain why some students have not been successful in spelling. They have not been taught the necessary skills they need. Individuals do differ in rates and styles of learning and bring different levels of literacy experience with them to the spelling situation. Some students come to school not speaking English or speaking with a limited English vocabulary. Some students come to school with no concept of print or any idea that words hold meaning, let alone the idea that words are made up of letters. Since not all students come to school with the skills they need, some will require basic skills and strategies to be directly taught to them to be successful spellers. It is crucial then that we teach the most effective method of spelling as possible to our students.

Over the years, a considerable amount of research has been completed on effective spelling practices and procedures. Spelling games and commercially developed programs are

also abundant and used widely to help students perform at an appropriate level. It becomes obvious that some type of spelling program needs to be implemented in the classroom, but which one? Children use several different strategies to spell words. Good spellers use many more strategies to spell words than poor spellers (Hughes and Searle, 1997; Radebaugh, 1985). "Clearly there is more than one route to becoming a good speller" (Hughes and Searle, 1997 p. 8). The question then becomes, what skills and strategies are my students using and/or lacking, and what method of spelling instruction should I use to teach my first grade students those essential skills and strategies they will need?

Purpose

The purpose of this study is to determine what essential skills and spelling strategies first grade students use and/or lack when spelling grade level and above grade level words. I also wondered whether the strategies taught during spelling instruction would be among those strategies commonly used by most students. The findings will be used to guide my instruction and shape my spelling program within my classroom. In addition, the findings should help other first grade teachers when planning spelling instruction. The study also sought explanations as to why students' spelling abilities were low or high based upon their profiles when entering first grade and their progression throughout the year.

This study was grounded in one major question and five guiding questions.

Major Question

What strategies for spelling are being used by first grade students when confronted with the task of spelling a word?

Guiding Questions

1. What are some strategies low performing spellers use when confronted with the task of spelling a grade level word? Above grade level word?

2. What are some strategies high performing spellers use when confronted with the task of spelling a grade level word? Above grade level word?

3. How do high performing spellers differ from low performing spellers in the strategies they use? What strategies do high performing spellers use when spelling that low performing spellers do not?

4. What are some strategies English as a Second Language (ESL) spellers use when confronted with the task of spelling a grade level word? Above grade level word?

5. Are the strategies being taught during spelling instruction among those strategies most commonly used and identified by students?

Definition of Terms

Onset- Consonants that come at the beginning of syllables. Onsets can consist of one, two, or three consonants. Examples: "s" in see; "st" in stay; "str" in street (Fox, 1996).

Phoneme--A minimal sound unit of speech that, when contrasted with another phoneme, affects the meaning of words in language (Harris and Hodges, 1995).

Phonological Awareness-- Awareness of the constituent sounds of words (syllables, onset and rimes, phonemes) in learning to read and spell (Harris and Hodges,1995).

Poor Spellers--Students unable to spell 50 percent of words on a weekly spelling test (Hillerich, 1981; Cates, 1988).

Rhyming phonograms- - Families of words that share the same rime (Adams, 1990).

Rime-- Represents the sounds heard at the end of syllables and are made up of the vowel and any subsequent consonants. Words that share rime also share rhyme. Examples: "-at" in cat; "-ade" in shade; "-e" in be (Fox, 1996).

Word families- - A group of words sharing a common phonic element, the same rime (Harris and Hodges, 1995).

Delimitations and Limitations of the Study

This study is confined to interviewing eight first grade students in a rural public school. The participants were taken from one classroom. Spelling was taught through formal direct instruction and daily spelling activities. Reading instruction focused on phonics and emphasized using sounds to read words and to spell. Skills taught during reading instruction could confound the results for this study.

Only eight students were specifically targeted for the case studies. These eight students were purposefully selected from the eligible students so the researcher would be able to target specific ability levels. Spelling developmental levels at which each student is performing and strategies used by these students were explored. Because these students were young, they may not have been able to accurately articulate the strategies they use to spell words. The ESL students may not have had the language ability to explain their strategies. The small sample size limits the generalizability of the findings, but teachers in similar classrooms my have corresponding results.

Significance of this Qualitative Study

A study on spelling strategies used by first grade students is beneficial for several reasons. Understanding the spelling strategies low performing, high performing spellers and ESL students are using will benefit me in determining the instructional practices I use within my classroom. I want to teach spelling strategies that are frequently used by high performing spellers to all my students thus giving a greater number of students more opportunities to achieve success in spelling.

My colleagues, other first grade teachers in my building, may also benefit from this study because it will provide evidence as to the effectiveness of the method of spelling practice and

strategies currently being taught. Lastly, this study also provides evidence as to some strategies low performing and ESL spellers use or may be lacking.

REVIEW OF LITERATURE

Word Families. Many methods of spelling instruction have been documented in research studies. One method of teaching spelling, which is supported by research, is through the use of word families. Word families consist of a group of words that share a common phonic element such as a rime (Adams, 1990; Harris and Hodges, 1995). A rime in a word represents the sounds heard at the end of syllables and are made up of the vowel and any subsequent consonants (Adams, 1990). An example of a rime is the "-at" in cat. Children have an easier time learning words when taught with onset-rimes (Wylie and Durrell, 1970). At the primary level some students are less phonologically aware than others and may still not recognize which sound goes with what letter. These students do not successfully sound out words, so rimes make it easier for these students to decode words (Ehri and Robbins, 1992). Some students have difficulty hearing the individual sounds within a word. Another advantage to using word families is they provide guidance to students having trouble segmenting these sounds (Adams, 1990).

Research has also yielded evidence that teaching word families help poor performing spellers. Poor performing spellers are those students who do not possess the needed skills and strategies to correctly spell fifty percent of the words on weekly spelling tests (Cates, 1988; Hillerich, 1981). Rimes are treated as a single entity rather than individual sounds therefore word families help eliminate the number of sounds to be sequenced and remembered. Five letter words, such as "shake" can be reduced to two "sounds" to be remembered, "sh-" and "-ake." Some poor spellers lack strong sequencing skills (Graham and Freeman 1985), gross memory, and/or a lack of immediate recall (Mcleod and Greenough, 1980).

Another benefit of using rimes is that vowel sounds are generally stable within particular rimes and this helps students discriminate and spell those tricky vowels correctly. Wylie and Durrell (1970) found that 37 rimes contain these stable, dependable vowel sounds, and these rimes make up nearly 500 primary grade words. These rimes are : ack, ail, ake, ale, ame, an, ank, ap, ash, at, ate, aw, ay, eat, ell, est, ice, ick, ide, ight, ill, in, ine, ing, ink, ip, it, ock, oke, op, ore, ot, uck, ug, ump, and unk. By teaching students these rimes, teachers are giving tools to students which will enable them to read and spell many new and unfamiliar words (Ehri and Robbins, 1992).

Memorization: Spelling has also been taught through the use of activities that will foster memorization. The rationale behind this method supports teaching students how to correctly sequence letters in a word. Memorization and sequencing can be taught through a multitude of activities but it is essential to include as many senses as possible to facilitate learning. Learning to spell is a multisensory-multimotor process involving speech, audition (hearing), vision, and haptics (touch) (Hanna, Hodges and Hanna, 1971). Two activities which involve multiple sensory and motor processes that aid in memorizing how to spell a word are the 5-step spelling practice method and visual imaging.

5-step spelling practice: This method of spelling practice which aids in memorization involves many of the senses. This method was developed by Graham (1983) and cited by Graham and Freeman (1985). In this practice method the following steps are used: 1) Say the word 2) Write and say the word 3) Check the word 4) Trace and say the word 5) Write the word from memory and check the spelling. It was shown that students using this method were able to immediately recall the correct spelling of more words than students who were not taught

this method. This method of practice is multisensory and multimotor which allows the child to experience the word through several modalities.

Visual image: Drawing a visual image that is related to a specific word meaning has been shown to help students remember the letter construction of the word. One strategy that Radebaugh (1985) found good spellers sometimes use when spelling words was to visualize the meaning or setting for the word. Radebaugh also found that good spellers are able to visualize the letters of the word. By having students draw a visual image of a word, poor spellers who lack this skill, can be taught a useful strategy that could help them in the future.

Other spelling practice methods that have been proven effective by research involve pre-testing and self correcting tests, and dividing word lists into smaller parts and distributing the practice of words over the course of the week. The following paragraphs detail each method.

Self Corrected Pretests: Self correcting a spelling test is an important factor in learning to spell. Students should be allowed to correct their own errors immediately after taking a test (Graham and Voth, 1990). Horn (1947), Allred (1977), and Milagros (1991) stated that self-corrected tests account for 90 to 95 percent of the achievement that occurs in spelling. Self correcting gives students an opportunity to visually identify their spelling errors immediately which allows them to make the corrections for themselves.

Distributed word practice: Distributing the practice of a total list of spelling words improves student performance on weekly tests (Cates, 1988; Graham and Miller, 1979; Reith, Axelrod, Anderson, Hathaway, Wood, and Fitzgerald, 1974). By distributing the bulk of words, those students who struggle with spelling are able to focus on specific words which will allow them to learn the letter patterns and sounds. It has also been shown that when the number of

words on the list are reduced, the gap narrows between good and "bad" spellers (Cates, 1988; Fulk, 1995; Reith, Axelrod, Anderson, Hathaway, Wood and Fitzgerald, 1974).

Inventive Spelling. Another popular method of fostering spelling development, which is in opposition to formal direct instruction of spelling, is through encouraging inventive spelling. Many classrooms use this form of spelling which is supported by research (Chomsky, 1971; Richgels, 1995; Salinger, 1993; Wilde, 1996). Children do not receive formal spelling instruction with this type of spelling program. Spelling is not emphasized as an isolated activity but is considered part of the integrated curriculum. At the primary level, students vary in their understanding of phonological awareness and in their ability to identify sounds and letters. The foundation for this method is the belief that learning to spell is developmental and through inventive spelling individual growth and progress in learning is evident. Through inventive spelling, children are allowed to discover for themselves what they already know about letters and letter sounds. Children's invented spellings improve over time as they incorporate their growing knowledge of spelling patterns and individual words (Wilde, 1996).

Salinger (1993) wrote, "Inventive spelling is a powerful tool for beginning writers" (p. 88). It is a great accomplishment for a young child to put together a word by figuring out for himself or herself what letter sounds to use. Children gain confidence in themselves and learn to trust their own ears and judgment when they are allowed to explore their own knowledge (Chomsky, 1971). This approach of spelling makes the child aware that the written word belongs to them and not just something that is imposed from outside by a teacher.

Inventive spelling is also beneficial for the poor spellers. In a study by Richgels (1995) even those students who were identified as poor spellers at the beginning of the study demonstrated some inventive spelling ability. In this study there was even difficulty in

identifying those students who were complete non-spellers. By encouraging this type of spelling development, all students can feel successful because they are in control of their own writing and spelling.

Many educators agree that inventive spelling is a valuable tool for first draft writing, particularly for younger children. Clark (1988) compared first graders who used inventive spelling to students who were directly taught spelling and found that those who were encouraged to use inventive spelling were better spellers and wrote more. The emphasis in inventive spelling, since it is integrated into the other content areas, initially is not on correct spelling but on being a writer in control of ideas. As experience with writing continues, informal instruction, through mini-lessons on what children are writing, often will increase students' letter-sound knowledge and eventually increase the accuracy of spelling. This is a different approach than direct instruction but it has been just as successful in producing students who can spell.

METHODOLOGY

Research Design

This qualitative, multiple case study was designed to investigate eight students of varying levels of spelling performance. This design was selected because it allows the researcher to be inductive while researching and questioning individual students to find answers. It allows the use of descriptive information gathered to analyze each case study. The focus is on the individuals and their experiences and knowledge. This research project is exploratory and the researcher is seeking out the various strategies used by successful and unsuccessful beginning spellers. A qualitative design is conducive to gaining an in-depth understanding of the topic being studied and allows the researcher to focus on the process of learning.

Role Of the Researcher

My role in this study was that of a participant observer (Bodgan and Biklen, 1998). As the classroom teacher I was leading and participating in all classroom activities. I was able to observe the students within their classroom environment without being obtrusive. Being the teacher in the classroom, I was able to select students not only based upon their test scores but also on their personalities. In selecting these students I tried to consider who would feel comfortable talking one-on-one with me and not feel a need to withdraw and grow quiet during an interview. I also needed to consider which students had been given written parental permission to participate. My primary role in this study was to conduct the student interviews and record individual responses to each question. The interviews were based upon information and activities in which students participate on a weekly basis.

I have taught first grade for three years and during that time I have used the same spelling curriculum and methods of instruction. The spelling curriculum was designed and used by all first grade teachers in my building. Other buildings within the district also use a similar spelling curriculum. The design of the study was such that no new activity or instructional method was introduced into the curriculum.

Setting

The study took place in the researcher's classroom which is one of four first grade classrooms in the building. There are twenty four students, the enrollment number in this class has been consistent all year. The students and I have created a caring environment. They are helpful and show concern towards each other. Each student has a job that he or she is responsible for during the week. Students are protective and proud of their job assignments. Several students stay after class periodically during the week to help clean up while they wait for

their bus. Each student has "sharing" two times during the month in which they have opportunities to read a book or share a piece of writing. Students are also protective of this time of the day.

Students receive ninety minutes of reading instruction first thing in the morning. Then there is a recess followed by fifty minutes of math. After lunch, students participate in spelling instruction lasting from fifteen to twenty minutes, a writing lesson two days a week, and a writing activity three days a week. Science and art are usually combined in some way and taught for forty five to sixty minutes. Specialist time, including Physical Education, Library, Music and a lesson from the counselor, is at the end of the day four day a week.

Classroom spelling instruction and activities are phonetically based. During the course of the study, twelve spelling lists containing 6 words were designed and used. The lists consisted of word families selected from Wylie and Durrell's (1970) list of 37 rimes. Five words belonged to the weekly word family and one word was a high frequency sight word. The sight words were taken from the list of words taught with the reading program, Success For All (Madden, 1994). The twelve spelling lists are included in Appendix A.

Weekly activities and instruction were comprised of the following schedule: On Monday, before a spelling list was presented we would brainstorm words that all had the same rime ending. After brainstorming the list of words, I would select the 6 spelling words to be practiced for the week. We would then talk about how even though we were not practicing all the brainstormed words, the students would know how to spell them because the only part of the word that changed was the first one or two letters, the onset. Students then took a pretest of the 6 spelling words and self-corrected their tests. On Tuesday, the first three words on the list were reviewed. Students then practiced those words independently 3 times by following the adapted

5-step practice method created by Graham (1993): 1) Trace and say the word 2) Write and say the word 3) Check the word 4) Write and say the word 5) Check the word. They also drew a picture of the word to help them remember the meaning. On Wednesday, students were introduced to the last three words on the list. They followed the same steps as on Tuesday by using the 5-step practice method and drawing a picture of the word. Thursday, students practiced isolating and spelling the onset and rime of each spelling word. A spelling practice paper was also sent home as homework that closely follows the 5-step spelling practice method. Students practiced these words by following these steps: 1) Say the word 2) Trace and say the word 3) Write the word 4) Check the word 5) Write the word from memory and check the word. On Friday, students took the weekly spelling test.

Participants

Participants for the case studies were a convenience sample of eight students selected from one group of 24 first grade students at a large elementary school in Mount Vernon, Washington. Students at this school are from families that range from low to high socioeconomic status, approximately fifty-seven percent of the students in the school qualify for free and reduced lunch. The population is comprised of primarily Caucasian and Hispanic students, approximately thirty eight percent of the student body are Migrant-Bilingual and ESL. At this school students were assigned to one of the four first grade classes in the fall based upon a need for a specific type of learning environment, level of academic achievement, level of need--ESL, behavioral., and gender. From these assignments, class lists were compiled and assigned to teachers.

My classroom was comprised of twenty four students, eleven boys and thirteen girls. Nine of these students were bilingual. Three students received speech and language therapy, one

received occupational therapy, and two were identified for special education. In the fall there were students learning the alphabet, who did not recognize letter names and sounds, and there were students who were reading and writing above grade level. All parents of my students were given an informational letter briefly explaining the study, as well as a request for parental permission within the first month of school at our school's open house (See Appendix B). Not all students returned their permission forms and therefore were not allowed to participate in my study. Of the eligible students, eight were selected for the case studies after taking a pretest which was given to all students in the class. These eight case study students were identified as four high performing and four low performing spellers based upon their spelling performance. Both successful and unsuccessful native English speaking spellers and ESL spellers were included in the case studies.

Instruments and Materials

To aid in reliability of results, a variety of methods were used to gather data for this study.

Pre-post test: A spelling pretest and posttest were given to all the students in my first grade class. This test contained twenty words from a grade level spelling list adapted from the qualitative inventory of word knowledge taken from Morris (1987). Refer to Chart 1 for the pre-post test spelling list.

Chart 1. Pre-Post Spelling Test for First Grade

Pre-Post Test	
1. girl	11. flat
2. want	12. ship
3. plane	13. drive
4. drop	14. fill
5. when	15. sister
6. trap	16. bump
7. wish	17. plate
8. cut	18. mud
9. bike	19. chop
10. trip	20. bed

The pretest was used as a method of identifying the case study participants. The scores on the pretest and posttest tests were also compared against each other to check for improvement. Each student was given two scores for the test. One score, the conventional score, was based upon the number of words spelled correctly. With the conventional score there were 20 points possible. The second score was based upon a developmental score which evaluated the developmental progression of unconventional invented spellings. When scored developmentally there were 120 points possible. The following developmental scale was developed by Tangel and Blachman (1990) and used by Ball and Blachman (1991, p. 58), and details how a score was figured. A score from 0 to 6 was determined for each word using the following criteria:

0 points: a random string of letters

1 point: a single phonetically related letter

2 points: correct first letter of the word

3 points: more than one phoneme represented (but not all) with phonetically related or conventional letters

4 points: all phonemes represented with phonetically related letters or conventional letters

5 points: correct phonetic spelling

6 points: correct spelling

Writing samples: Writing samples were taken from students in the fall to analyze their developmental spelling level at the beginning of the year. Samples of writing were also taken in the winter and re-analyzed to determine the amount of growth that had occurred over the course of the study. The levels of ability at which the samples of writing were analyzed was based upon the developmental continuum known as, First Steps, developed by the Educational Department of Western Australia (1994) and the five stages of development in learning to spell. These phases are described below:

Phase one of the continuum is known as Preliminary Spelling. In this phase children become aware that print carries a message, but their writing is not readable by others. They use letters or approximations of letters to represent written language. Often letters from their name will appear in their writing. At this stage writers are beginning to show awareness of directionality and will write strings of letters across the page.

Phase two is identified as Semi-Phonetic Spelling. In this phase children show a developing understanding of sound-symbol relationships. They begin to represent whole words with up to three letters, mainly consonants. At this point the child will know the letters of the alphabet by name and will begin to leave spaces between word-like clusters of letters.

Phase three is called Phonetic Spelling. Children at this phase are able to provide an almost perfect match between letters and sounds. Spelling is becoming more conventional. They are sounding out words and developing their own particular spellings for certain sounds

that often arise in their writings. Children at this stage begin to play with tenses, and they often begin to over-generalize vowel combinations within words.

Phase four is labeled Transitional Spelling. Writers are moving away from a reliance on the phonetic strategy and are moving towards the use of visual and meaning-based strategies. They are using letters to represent all vowels and consonant sounds and are placing vowels in every syllable. These writers are using a variety of words when they write, and they are beginning to use knowledge of word parts such as prefixes and suffixes.

Phase five is the last phase and is identified as Independent Spelling. These writers have become aware of the many patterns and rules that are characteristic of the English spelling system. They use a variety of strategies to spell words and they have the ability to recognize when a word does not look right. Spellers at this phase will predict the likely spelling of a unknown word with reasonable accuracy. Students operating in phase five can use silent letters and double consonants correctly, and they have accumulated a large bank of known sight words.

Alphabet recognition task: An alphabet recognition task was given to all students at the beginning of the year and used when analyzing the case studies. Students were instructed to write the letters of the alphabet. This task gave information about each student's level of letter knowledge when entering first grade and helped answer questions about his or her spelling skill level and ability. This evaluation of student development was used for possible explanations for reasons why the student scored as s/he did on the pre and posttests.

Interviews: Interviews were conducted by the researcher during the study. These interviews were designed to highlight the spelling strategies used by each speller, give information about attitudes on spelling ability, and draw out each student's attitude towards the subject of spelling. The questions included in the interviews were modeled after those used in

Radenbaugh's study (1985). (See Appendix C). A puppet was included in the interview. The children verbalized their thoughts to the puppet to help it learn how to spell. This approach was based on interviews conducted by Weiner (1994). This design was used because children provide different kinds of information in situations where the adult already knows the answers and the puppet gave them a rationale as to why they needed to explain their steps.

The interviews took place in a small room down the hall from the student's homeroom. Students were brought into the room one by one and the interviewer began by explaining why they were there. A pencil topper was placed on the pencil and was introduced to the students as Curious George. The researcher explained that Curious George had been asking her to teach him how to spell so he could write to his friends and leave messages to the man in the yellow hat. The researcher explained that she had tried to teach Curious George but he did not always understand because sometimes adults explain things but they still do not make sense. It was then explained to the case study students that as they were spelling some words, they would need to explain to Curious George how they were spelling the word and what they were thinking in their heads as they spelled the words. They began by writing their names on a piece of paper. Students then spelled numerous grade level words, a short sentence, and three above grade level words.

Each interview was coded to categorize the various descriptions of strategies used by students as well as the frequency of use among the high performing and low performing spellers.

Phoneme Blending Test: Phonemic blending requires an awareness of isolated sounds in a word and the ability to combine those individual sounds together to pronounce a word. This awareness of sound is important when spelling and necessary to assess when studying individual's spelling ability. Each case study student was tested on ten words and a student

received one point for each correctly blended word. The tester provided the sound segments of each word and the student was asked to put the sounds together to produce a word. For example, the tester would say "/m/ . . . /o/ . . . /p/" and the students should respond by saying, "mop." (Refer to Appendix D). The results of the phoneme blending test were added to each case study profile. The scores were used to help describe each case study students and give the researcher a better understanding of the stage of spelling and reading development for each student.

Phoneme Segmentation Test: A segmentation test was given to each student in the spring. There is statistical evidence which shows that phonemic segmentation tests are not only a strong predictor of reading achievement but also of spelling accuracy (Nation and Hulmes, 1997). Wood and Terrell (1998) also stated that "segmental awareness of sound was able to predict children's spelling attainment" (p. 273). Each case study student was tested on ten words and a student received one point for each correctly segmented word.. The tester would say the word and then instruct the student to break the word into two sound parts, the onset and the rime of each word. The tester for example, would tell the student the word "Mike," and the student would need to reply "M . . ike." (See appendix E). The results of the phoneme segmentation test were added to each case study profile. The scores were used to help describe each case study students and give the researcher a better understanding of the stage of spelling and reading development for each student.

FINDINGS

Case Studies. Eight case study students have been profiled. Each portrait gives information about each student's letter knowledge, spelling pretest and posttest performance, writing level, and reading level. Following are the portraits of each of the case study students.

Allison. Allison speaks both English and Spanish, as does her family. English is the primary language spoken at home. Allison came to first grade not knowing how to write all her letters. By March she identified 25 of the 26 letters, both capital and lower case. Her scores fluctuate on weekly spelling tests. She generally misses two to three on each weekly spelling test depending on the difficulty of the word family. On the spelling pretest she scored a conventional score of 0 /20, developmental score of 8/120. On the posttest Allison scored a conventional score of 4/20, developmental score of 86/120. Her writing throughout the fall would be classified as Phase Two, Semi-Phonetic Spelling. Allison would use two or three consonants to represent whole words in her writing. By March, Allison had moved on the continuum towards Phase Three, Phonetic Spelling. She was able to provide more conventional spellings of words and used more letters and sounds in each word. (See Appendix F). On a blending and a segmentation task she scored 10/10. Allison was reading at grade level (1.0) when she entered first grade and in the Spring continued to make grade level progress (1.7).

Brooke. Brooke speaks English which is the primary language spoken at home. She came to first grade knowing how to write all upper case letters and she knew all the letter sounds. She consistently scores high on her weekly spelling tests. On the spelling pretest she scored a conventional score of 0/20, developmental score of 54/120. On the posttest Brooke scored a conventional score of 9/20, developmental score of 104/120. Her writing throughout the fall would be classified as Phase Two, Semi-Phonetic Spelling. Brooke began in the fall by using two or three letters to represent whole words and copying words and sentences from around the room. By winter, Brooke added more letters to her spellings of words and she began to write sentences. In March, Brooke had moved on the continuum to Phase Three, Phonetic Spelling. Her spelling has become more conventional and she often provided a match between letters and

sounds. She has made great progress in writing and the readability of her spelling approximations has increased since fall. (See Appendix G). Brooke scored 9/10 on a blending task, saying "get" after hearing the individual sounds in "big." She also scored a 9/10 on a segmentation task, breaking the word "get" into "g-at." Brooke was reading slightly above grade level (1.2) in the fall and in the spring continues to make grade level progress (1.8).

David. David is bilingual in Spanish and English; both languages are spoken at home. David came to first grade knowing all the letter names and letter sounds. He consistently scores high on his weekly spelling test. On the spelling pretest he scored a conventional score of 3/20, developmental score of 49/120. On the posttest David scored a conventional score of 11/20, developmental score of 107/120. In the fall his writing would be classified as Phase Two, Semi Phonetic Spelling. His writing attempts were highly phonetic but inconsistent. One writing would provide an almost perfect match between letters and sounds, and the next writing would consist of two or three letters representing whole words. By winter he had progressed to Phase Three, Phonetic Spelling. By spring, David was a very strong phonetic speller. He has made great progress in his writing and has developed into an independent writer. The readability of his spelling approximations and quantity of his writing has increased. (See Appendix H). David scored 9/10 on a blending task, saying "tan" after hearing the individual sounds in "ten." He scored 8/10 on a segmentation task. He was reading above grade level in the fall (1.4) and has continued to progress in his reading ability. By spring David was reading above grade level (2.0).

Jorge. Jorge is bilingual, Spanish and English, but his primary language is Spanish. His parents speak English. Jorge came to first grade without knowing all the letters and sounds. When asked to write all the letters he knew, he wrote numbers. When asked to spell any words

he knew, he only spelled his name. He now identifies the letter names of both lower and upper case letters. At the beginning of the school year Jorge always had difficulty on the weekly spelling tests. He did not identify the initial consonants (onset) of the words and rarely knew the letters in the word family (rime). He made good progress on his accuracy on the weekly tests and began to recognize the initial sounds. By spring he scored high on his spelling tests, missing one or two words each week depending on the difficulty of the word family. On the spelling pretest Jorge scored a conventional score of 0/20, developmental score of 0/120. On the posttest Jorge scored a conventional score of 2/20, developmental score of 75/120. In the fall Jorge's writing would be classified as Phase Two, Semi Phonetic. He was using two letters to represent whole words, both consonants and vowels. He struggled in writing due to a lack of letter sound knowledge. By spring, he recognized more letter sounds in his writing. He had progressed to Phase Three, Phonetic Spelling. Jorge had begun to represent most substantial sounds in a word. (See Appendix I). He scored 7/10 on a blending task, saying "mad" after hearing the individual sounds in "man," "gat" after hearing the individual sounds in "get," and "tag" after hearing the sounds in "dog." He scored a 10/10 on a segmentation task. He was reading below grade level in the fall, but placed at grade level (1.0) and continued to be below grade level (1.4) in the spring. He has made slow but steady progress.

Jared. Jared speaks English which is the only language spoken at home. Jared came to first grade knowing all the letter names and letter sounds. He consistently scores high on his weekly spelling tests. On the spelling pretest Jared scored a conventional score of 9/20, developmental score of 99/120. On the posttest Jared scored a conventional score of 15/20, developmental score of 114/120. He is a very independent writer and he had developed some spelling strategies of his own before any formal instruction was given. In the fall, his writing

would be classified as Phase Three, Phonetic Spelling. He was able to sound out and represent almost all substantial sounds in a word. By spring, he was becoming a Transitional Speller, Phase Four. He was using letters to represent all vowels and consonant sounds in words and he was using his knowledge of common letter patterns in his writing. (See Appendix J). He scored 10/10 on a blending and a segmentation task. Jared was reading above grade level in the fall (1.4) and has continued to progress and move up in his reading level. By mid-year of first grade he was reading at a second grade level (2.0).

Kyle. Kyle speaks English which is the primary language spoken at home. He is also learning how to speak and write Japanese due to the fact that part of his family is Japanese, and Spanish because his mother knows how to speak it and wants her children to speak it as well. Kyle came to school knowing some letter names and letter sounds. When asked to write the alphabet in the fall of first grade he could write three letters in order (A, B, C), eight letters in all. By spring he could identify all 26 letters, both capital and lower case. He generally writes all the words correctly on his weekly spelling tests. On the spelling pretest Kyle scored a conventional score of 0/20, developmental score of 44/120. On the posttest he scored a conventional score of 3/20, developmental score of 72/120. Writing is a challenge for Kyle. He began the fall at Phase Two, Semi-Phonetic Spelling. He would use one letter to represent a whole word, mainly consonants. His name was the only recognizable word in his writings. By spring, he used more letters to represent words. He now included vowels. At times his spelling of words was hard to decipher but most sounds were represented with a letter. At this time he was entering Phase Three, Phonetic Spelling. (See Appendix K). He did not understand the blending and segmentation task. He scored 6/10 on the blending test saying "men" after hearing the individual sounds for "man," "flato" after hearing the sounds for "fall," "ck" after hearing sounds for "dog,"

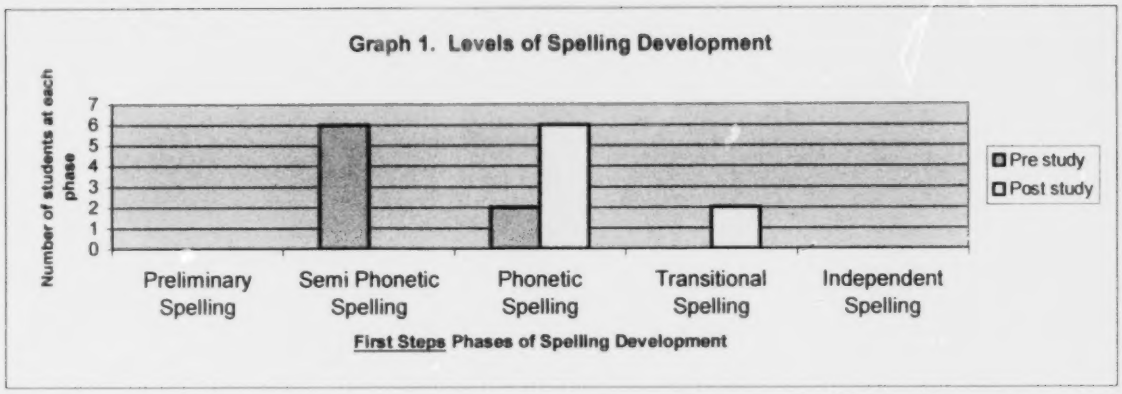
and he gave no response after hearing the sounds in the word "ten." He scored 7/10 on the segmentation task. He often left off the final consonant and replaced the vowels with an "a." He was reading at grade level in the fall (1.0) and in March continued to stay near grade level (1.7). He works independently and has confidence in his abilities.

Mary. Mary speaks English which is the only language spoken at home. Mary came to school knowing all the letters. She was able to write both upper case and lower case letters of the alphabet in the fall of first grade. She consistently scored high on her weekly spelling tests. On the spelling pretest Mary scored a conventional score of 6/20, developmental score of 82/120. On the posttest she scored a conventional score of 9/20, developmental score of 100/120. She began the year as a highly phonetic speller, Phase Three. Mary was choosing letters on the basis of sound, and all substantial sounds in a word were represented in her spellings. By March, she was using her knowledge of common letter patterns in her writing, and she was beginning to place vowels and consonants in most every syllable. She has progressed to Phase Four, Transitional Spelling. (See Appendix L). Mary scored 10/10 on a blending and a segmentation test. She was reading slightly above grade level in the fall (1.3) and by March read at a second grade level (2.0).

Tanya. Tanya speaks English which is the only language spoken at home. Tanya came to school knowing some of the letter names and letter sounds. She did not write all of her letters in the fall of first grade. Her performance on weekly spelling tests fluctuates, generally missing two or three words. On the spelling pretest Tanya scored a conventional score of 5/20, developmental score of 51/120. On the posttest Tanya scored a conventional score of 4/20, developmental score of 93/120. Tanya's writing throughout the fall would be classified as Phase Two, Semi-Phonetic. She used one letter to represent a whole word, mainly consonants. She has

struggled with her writing. She generally only used words she was confident spelling (i.e. mom, cat, dog, love, the). By March, Tanya had progressed to Phase Three, Phonetic Spelling. She is choosing letters on the basis of sound and attempting to spell many words. Most of the substantial sounds in a word are represented. (Appendix M) Tanya did very well on the blending test, scoring 10/10. However, she did not understand the segmentation test, scoring 0/10. This is interesting since weekly spelling instruction focuses on breaking the spelling word into two word parts, same as the task on the segmentation test. She was reading at grade level in the fall at a 1.0 and continued to progress on grade level into the spring (1.7).

During the course of the study, each student has made the transition into the next phase of spelling and writing development. While many of the students are in the Phonetic Stage of spelling, they do not all perform at the same level within that stage. Kyle is struggling in writing and therefore just entering into the Phonetic Stage. David is also in the Phonetic Stage but he is on the verge of becoming a Transitional speller. Two high spellers, Mary and Jared, are Transitional spellers. David and Brooke were also identified as high spellers at the beginning of the study, and at the end of the study are labeled Phonetic Spellers. Brooke seems to be taking more time within this stage of development. The four low performing spellers are all in the Phonetic stage of writing and spelling. Jorge has made tremendous progress during the study. Allison, Kyle, Tanya all seem to be progressing at an equal pace. The two Phonetic Spellers at the beginning of the study progressed to become Transitional Spellers by the end of the study. The six identified Semi Phonetic Spellers at the beginning of the study progressed to become Phonetic Spellers (Refer to Graph 1).



Guiding Questions. The results of this study prove to be important to many first grade teachers. Teachers strive to find the spelling strategies that will work for students of all abilities. The findings related to the guiding questions will help teachers determine what specific strategies students are using, enabling them to design a spelling program that will best fit their students. The following sections elaborate on the findings for each research question.

Question 1. What are some strategies low performing spellers use when confronted with the task of spelling a grade level word? An above grade level word?

Low performing spellers identified four strategies to spell grade level words outlined below in Table 1. Using letter sounds to spell the words was the most frequently used strategy (N=13). Recognizing and using a rime learned during spelling instruction was the second most frequent strategy used (N=7). Remembering a word from reading instruction was mentioned (N=5) as well as some sort of visual image to help in spelling a word (N=2). Sounding words out and remembering rimes from word families were also used together more frequently (N=4) than any other multiple use of strategies. (Refer to Appendix N). Each strategy was counted only once for each task. It was counted again if mentioned during a subsequent writing task.

Low performing spellers identified three strategies to spell above grade level words. Using letter sounds to spell words was the most frequently used strategy (N=7). For the above

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grade level words multiple strategies were used by four students. (Refer to Appendix O). Using letter sounds to spell the words and using a visual image to help spell the word were the other two strategies mentioned.

Table 1. Strategies Used by Low Performing Spellers

Strategies used to spell words	Grade level words	Above grade level words
Recognized and used a word family learned during spelling instruction	7	2
Thought of letter sounds	13	7
Learned and remember the word from Reading instruction	5	0
Memorized the word	0	0
Used a visual image of the word	2	1
Learned the word from someone outside of school	0	0
Used Multiple strategies—combinations of the above mentioned strategies	9	4

Question 2. What are some strategies high performing spellers use when confronted with the task of spelling a grade level word? An above grade level word?

High performing spellers identified six different strategies to spell grade level words, two more than low performing students (refer to Table 2). Using letter sounds to spell words was the most frequently used strategy (N=16). Five other strategies were identified but not used as frequently. Sounding out a word was used in combination with words learned from reading instruction, spelling instruction, and learned from an outside source. (Refer to Appendix N).

When spelling above grade level words, high performing spellers identified five strategies, once again more than low performing spellers. Using sound knowledge to spell a word was the most frequently identified strategy (N=8). Many times high performing spellers identified this strategy in combination with one other strategy when spelling harder words. (See Appendix O).

Table 2. Strategies Used by High Performing Spellers

Strategies used to spell words	Grade level words	Above grade level words
Recognized and used a word family learned during spelling instruction	2	1
Thought of letter sounds	16	8
Learned and remember the word from Reading instruction	3	3
Memorized the word	2	1
Used a visual image of the word	1	1
Learned the word from someone outside of school	2	0
Used Multiple strategies—combinations of the above mentioned strategies	7	5

Question 3. How do high performing spellers differ from low performing spellers in the strategies they use? What strategies do high performing spellers use when spelling that low performing spellers are not?

Both low performing spellers and high performing spellers most frequently identify using sounds to spell grade level and above grade level words. They also both identified using multiple strategies. Low performing spellers seem to use word families more frequently than high performing spellers when spelling grade level words. On the whole high performing spellers did identify more strategies to use when spelling grade level and above grade level words. The only strategies used by high performing spellers for grade level words that were not identified by low performing spellers were memorizing the word and learning the word from someone outside school. In spelling above grade level words, high performing spellers identified using memorization and remembering a word from reading instruction.

Question 4. What are some strategies ESL spellers use when confronted with the task of spelling a grade level word? Above grade level word?

English as a Second Language spellers identified using four strategies to spell grade level words. (Table 3) They identified using letter sounds to spell words, recognizing and using rimes

from spelling instruction, recognizing the word from reading instruction, and using a visual image to help spell the word. Using letter sounds was the most frequently used strategy (N=11). It was also identified as being used in combination with several other strategies. (See Appendix N).

ESL spellers also identified the same four strategies to spell above grade level words. Using letter sounds was identified most frequently and identified as being used in combination with other strategies. (Refer to Appendix O).

Table 3. Strategies Used by ESL Spellers

Strategies used to spell words	Grade level words	Above grade level words
Recognized and used a word family learned during spelling instruction	3	2
Thought of letter sounds	11	8
Learned and remembered the word from reading instruction	4	1
Memorized the word	0	0
Used a visual image of the word	2	3
Learned the word from someone outside of school	0	0
Used Multiple strategies—combinations of the above mentioned strategies	5	4

Question 5. Are the strategies being taught during spelling instruction among those strategies most commonly used and identified by students?

The strategy most commonly used by the students was that of using letter sounds, which is taught during reading instruction. This strategy was identified, combining grade level and above grade level words, twenty out of the thirty seven responses (54%) for low performing spellers, twenty four times out of forty responses (60%) by high performing spellers, and nineteen out of the thirty four responses (56%) by ESL spellers.

Students are using and identifying strategies taught during spelling instruction but not with high frequency. Recognizing and using a word family learned during spelling instruction

was identified nine out of the thirty seven responses (24%) by low performing spellers, three out of the forty responses (8%) by high performing spellers, and five out of the thirty four responses (15%) made by ESL spellers. Using a visual image to remember a word was identified three times out of the thirty seven responses (8%) by low performing spellers, two times out of the forty responses (5%) by high performing spellers, and five out of the thirty four responses (15%) made by ESL spellers.

Interview Questions. Four questions from the student interviews were analyzed. The questions reflect students' perspective of the current spelling instruction they were receiving in their classroom, their perspective of what makes a good speller, strategies they would teach someone else to spell, and strategies they use in their journal writing to spell difficult words.

Interview Question 1. "How do you think it helps other kids spell when we learn our word families?"

Of the twelve responses, three students responded that word families were used just for practice in class on spelling words. Three students also responded that word families help you spell other words, when you know how to spell the ending of the words. Two students responded that word families would help when writing in journals because the teacher did not tell students how to spell words while they were writing. Two more students responded that learning word families helps kids remember in your mind how to spell the words. One student thought it was helpful to learn word families during spelling because it helps you get smarter, like for spelling bees. The last reason stated as to why it is helpful to others to learn word families was that it helps them on spelling tests.

Interview Question 2. "Who do you know that is a good speller?" and "Why do you think____ is a good speller?"

Four low and four high performing spellers identified family members as good spellers. One low performing student identified teachers. These students explained that big people know how to spell because they are big and they know "stuff," and that when they try to read they (mom, dad, sister, brother) know the words so they are good spellers. Other responses explained that an uncle is a good speller because he traces good [penmanship] and he's a good worker for pictures [drawer], and that cousins were good spellers because they were in third grade and they practice. Only one high performing speller identified herself as a good speller and her rationale was that she practices [spelling words] because you only need to know the first two letters and then the word family. A low performing speller identified a student from class as a good speller and his rationale was that the student "does" her journal and always writes words [stories] with the right words.

Interview Question 3. "How would you help someone learn how to spell a word?"

Four high performing and two low performing spellers stated they would tell the person to "sound it out." One low performing speller said he would teach them word families, and another low performing speller stated she would have the person copy them.

Interview Question 4. "What do you do in your journal when you come to a word you don't know how to spell?"

Only two strategies were identified. Four low and four high performing spellers said they sounded the word out. One low and one high performing speller stated they asked for help.

Interview Spelling Task. Two grade level and two above grade level words from the case study interviews were used to compare spelling attempts and spelling accuracy by both low performing, high performing and ESL spellers. (See Table 4) When spelling the grade level words "best" and "clock" all but one low performing student spelled the words correctly. Jorge,

who is a low performing and an ESL speller wrote "bist" for "best" and "Kloc" for "clock." The word families "-est" and "-ock" have been taught during spelling instruction but these words were not included on the spelling lists.

The spellings of the two above grade level words varied between all students. Jared, a high performing speller, had the closest spelling approximation to crocodile with "crocedile." All students used letters, both consonants and vowels, to represent sounds in each syllable. Tanya over-generalized her knowledge of the "ck" blend and used this spelling every time she heard a /c/ sound. Three other students spelled the /c/ sound with the letter "k." The spelling for the medial short vowel sound, short /o/, in this word proved to be challenging for all students, as well as the spelling for the final long vowel sound, long /i/. Two spellers, Jorge and Kyle who are both low performing spellers, did not correctly represent the final consonant in this word.

When attempting to spell the word "dinosaur," Brooke, a high performing speller, was the only student to correctly identify the medial short vowel sound, short /o/. All but one student was able to use letters to represent vowels and consonants in each syllable of the word. Jorge did not represent the medial vowel sound, which was the second syllable in the word. Kyle, also a low performing speller, was not able to correctly represent the final consonant in this word. Mary, a high performing speller did not represent the final vowel sound in the last syllable of the word. Six of the eight spellers identified the final vowel sound as long /o/.

Regardless of spelling performance level, no students spelled the words correctly. There were a few students who had closer approximations, but each attempt showed how students used their knowledge of sounds to spell the words. This finding shows the reliance upon letter sounds to spell above grade level words, which was the most frequently identified strategy by all performance levels.

Table 4. Spelling Samples from Case Study Interview

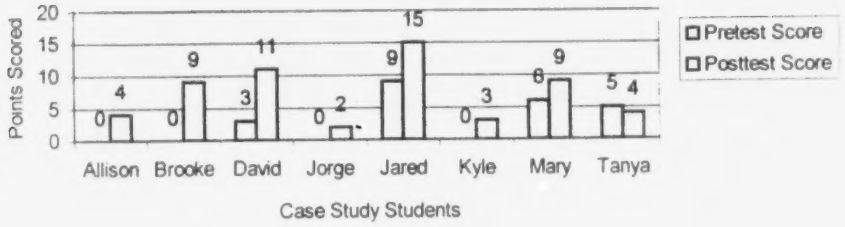
	best	Clock	crocodile	dinosaur
Allison (L, ESL)	Best	Clock	crockudiyl	danusor
Brooke (H)	best	Clock	krocrdiell	Dinosor
David (H, ESL)	best	Clock	crocidiyl	dinasor
Jorge (L, ESL)	bist	Kloc	Kocidiu	dinsor
Jared (H)	best	Clock	crocedile	dinesor
Kyle (L)	best	Clock	krocadiwo	dinisio
Mary (H)	best	Clock	Crocudial	Dinusr
Tanya (L)	best	Clock	ckrackadil	dinasur

(H) is used to identify high performing spellers, (L) is used to identify low performing spellers, and (ESL) is used to identify the English as a Second Language spellers.

Pre and Post Tests. The pretest and posttest conventional and developmental scores were compared against each other to check for improvement. In following with sound research data analysis, gain scores were not used to prove any research question but they do allow one to see the growth in each case study student over the course of the study. Not all students made the same growth nor did the students have the equal need for growth as will be obvious from the scores on the pretest and posttest.

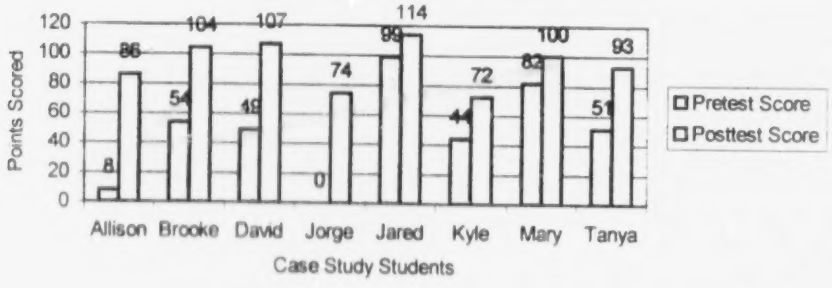
All but one student made improvements over the year in their conventional spelling scores. (Refer to Graph 2). No student received the full twenty points. The highest score on the pretest was nine which was scored by Jared. On the posttest every student received points where as on the pretest only half of the students received points. The highest score on the posttest was fifteen points which was also scored by Jared. The greatest improvements were made by Brooke with an increase of nine points and a score of nine and David with an increase of eight points with a score of eleven. Tanya went down one point.

Graph 2. Spelling Test Conventional Scores



Students also made improvements in their phonetic, developmental spelling which shows in their posttest spelling scores. (See Graph 3). No student received the full 120 points on the pretest or the posttest. The highest score on the pretest was scored by Jared with 99 points. The greatest improvements were made by Allison with an increase of 78 and a score of 86 points and Jorge with an increase of 74 and a score of 74. Tanya showed an improvement with the developmental scoring.

Graph 3. Spelling Test Developmental Scores



The pretest and posttest findings for mean and range also show there was an improvement in spelling over the year. The mean score on the conventional pretest was M=2.86 and the range was 9. On the posttest the mean score was M=7.13 and the range was 13. The mean score on the developmental pretest was M=48.38, with a range of 99. The mean score on the developmental posttest was M=93.75 and a range of 42. The mean scores on the pretest and

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posttest for both conventional and developmental scores increased. The range for the developmental score decreased and the range for the conventional score increased.

CONCLUSIONS

My quest throughout this study was to determine what sort of strategies first grade low performing, high performing, and ESL spellers were using to spell words. I also wanted to determine whether the strategies taught during spelling instruction were among those strategies used by my first grade students. This is of great importance to me because the spelling instruction I have been using to teach my students has been supported by research but I still wondered how effective it was for the students at my school. My biggest concern is for the low performing and ESL spellers. Is the spelling instruction they are receiving benefiting them?

As a result of my student interviews I found that all students, low performing, high performing and ESL spellers, relied primarily on letter sounds to spell grade level and above grade level words. I had expected more students to talk about word families based upon the selection of words they were asked to spell during the interview. It was also interesting since classroom spelling instruction is based upon learning the consistent rime pattern of a word family.

One influential factor that could have contributed to the overwhelming reliance on letter sounds is that of our reading instructional program. All students receive ninety minutes of reading instruction each day and all of the low performing spellers in this study were among those that also received twenty minutes of one-on-one tutoring each day. One of the goals of the reading program, Success For All Roots and Wings (1994), is to "increase student's ability to hear sounds within words, know the sounds associated with specific letters, and blend letter sounds into words" (p.xi). During lessons, students are taught to "stretch and read" phonetically

regular words; this is how the new words are presented. Students learn to say the sounds for letters in order, to help students become proficient in letter/sound matching.

Spelling instruction during reading time is minimal, only taught two days a week for approximately 10 minutes each day. During spelling instruction, the concept of auditory sound/symbol correspondence is introduced through "stretch and count." Students are first given practice hearing individual sounds and sound blending. Students then count the number of sounds in a word. Spelling is also emphasized through "stretch and spell" in which students begin writing letters for each sound or sound blend in a word. With this emphasis on auditory attention, memory and sequencing, visual memory, and letter name recall students are taught four words per story. With so much emphasis on hearing and using letter sounds, for a minimum of 7 ½ hours a week, there is tremendous opportunity for impact on strategies students use to spell words, compared to homeroom spelling instruction which equals approximately 1 ½ hours a week, fifteen to twenty minutes each day. Students also mentioned learning how to spell words from reading class. They were able to identify the exact book from which a word was learned. Students seem to be learning strategies during reading instruction that they are using in spelling.

Low performing spellers identified using word families to help them spell grade level words, it was the second most frequently identified strategy. High performing spellers only mentioned this strategy two times for spelling grade level words, and one time for spelling above grade level words. This finding is consistent with other studies that have found evidence that learning word families is beneficial to low performing spellers. By spring, all the low performing students could recognize letters of the alphabet, but two are still in the process of learning all the letter sounds and identifying the sounds when heard in a word. For spelling blends and long vowels, word families seem to be a helpful way to remember the letters needed

to spell a word for the low spellers. If students do not know all the letter sounds, learning a rime appears to be a strategy to remember and sequence correctly.

In this study the high performing spellers also turned out to be high readers. It seems as if one reason the high performing spellers do not need to rely on word families as much is because they have learned about more blends and long vowel sounds. Since these students have read more complex stories during reading instruction, these students can rely on their letter knowledge and their knowledge of spelling rules to spell words rather than memorizing rimes.

English as a Second Language spellers used the same strategies to spell words as the low performing spellers. The only difference I found between the low performing, ESL spellers and high performing spellers was that the high performing spellers had learned how to spell a word from someone outside of school, and they had memorized how to spell a word. This difference in the strategies used can not be considered significant. Only students who have a good understanding of letters and sounds, and have a better understanding of blends and spelling rules would be able to concentrate on memorizing words. Their efforts are not in trying to identify a sound and attach a letter to match.

What I found interesting was the fact that low performing spellers identified using approximately the same number of multiple strategies as the high performing spellers when spelling both grade level and above grade level words. My findings did not produce the same results as Radebaugh (1985), who had evidence to conclude that in general good spellers used many more strategies to spell words than poor spellers. Another finding that was used as a distinguishing factor by Radebaugh between good and poor spellers was the use of visual imagery. Radebaugh found that poor spellers made no reference at all to visual imagery. In my

findings, both high performing and low performing spellers used visual imagery to aid in spelling words.

Several of the strategies taught and used during spelling instruction are used by the students as strategies to spell words. Students do use word families to help spell words but not as often as I would have expected since this is emphasized during weekly spelling instruction. Although some students appear to use this strategy, during the student interviews, it was also mentioned by individuals that they never used the word family spelling words in their writing because they were not useful to them. Other individuals mentioned that these words were just for practicing and not for using in their writing. Even though the classroom teacher emphasizes using word families to spell unfamiliar words while writing, more intentional writing experiences may be needed each week using spelling words and other words sharing the same rime to reinforce this strategy.

Case study students also use visual imagery to aid in spelling. This is an activity they practice weekly during spelling practice. This strategy appears in many forms. One student identified a big cloud in her head that she would write the word in. When the word did not look correct, she could either add or erase the letters and try again simply by pumping her finger. Another student would imagine the object and it would tell him how to spell the word. Both low performing and high performing students used these types of strategies. Although the strategies that are taught during spelling do appear to be used by the students, they are not occurring as often as I would expect. Only one student stated they would use word families to help teach someone else how to spell. The only other strategy that was identified was that of teaching someone to use letter sounds.

Students tend to be using and depending upon letter sounds to aid their spelling attempts. These findings support the theory of encouraging inventive spelling and allowing the students to discover spelling patterns as they gain a greater understanding of letters and spelling rules making spelling more developmentally appropriate.

While my sample size was limited to eight students and the generalizability of my results are small, my findings suggest that all performance levels within my classroom of first grade students are using the same strategies. It appears that the ninety minutes of reading instruction is having a great impact on their choice of strategies to use when spelling. It is importance that students know how to transfer the skills learned in reading to the subjects of spelling and writing. We as teachers want to see these connections made between subjects.

Based upon these findings there are implications for my instruction of spelling as well as other first grade teachers' instruction. It appears that students are receiving an adequate level of instruction for learning and using the letter sounds strategy with our reading program. The skills learned during reading are being transferred into spelling which is evident by the frequency of usage and dependence upon using letter sounds as a strategy when spelling words. My spelling instruction should then emphasize the various other strategies identified during the interviews to spell word since students appear to be using multiple strategies while spelling. The findings based upon the case study profiles also show that students progress in their writing and spelling abilities individually and sequentially, based upon their own developmental level. (Refer to Graph 1). With this in mind, time could be spent more efficiently by individualizing spelling instruction and teaching students high frequency words. By using these words spelling instruction would be more useful to them in their writing. These words can be taken from the Success For All reading program. Each story has a list of "red words" that can be used during

spelling instruction thus bringing out more explicitly a connection between reading and spelling. Spelling words could be based upon the words they will be using during reading instruction. Students would be able to find their spelling words in context in their weekly stories. Salinger (1990) stated, "By practicing skills in context, children integrate what they know and what they are learning" (p. 92). These individualized words could still be practiced and memorized following the same activities as are currently being used. Strategies that were identified in this study could be emphasized when they pertain to the selected spelling word lists.

Suggestions for Further Research

To improve the generalizability of the study and to check how useful it is to teach alternative strategies, further studies could be conducted to include interviews with all the first grade students. This would generate more data and descriptions of the strategies used by students who receive this type of spelling instruction. Interviews could also be conducted in as many classrooms in which no direct instruction of spelling and spelling strategies are taught. This method would determine how frequently these identified strategies occur naturally and are used. A comparative study could also prove beneficial to the generalizability of the study with a control group in which no spelling strategies are taught and an experimental group in which specific spelling strategies are explicitly taught and incorporated into the instruction.

In further research more specific information would also be gleaned if the spelling tasks during the interview were expanded upon and made more elaborate. This expansion of the spelling task could be done by adding more grade level and above grade level words and sentences to be spelled by the case study students. Students would have more opportunities to share their thoughts over a broader range of materials. Reading fluency measures and oral reading rates could prove beneficial by adding more information to the case study profiles. This

additional source of data would give a clearer glimpse of their academic level and needs, phonemic awareness skill level, and academic progress. This added information would also help make a link between reading level and strategies used.

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APPENDICES

Weekly spelling lists

Week 1 --ap

1. cap 2. tap
3. map 4. nap
5. snap 6. the

Week 2 --ip

1. hip 2. lip
3. zip 4. rip
5. chip 6. was

Week3 --op

1. mop 2. pop
3. top 4. hop
5. stop 6. is

Week 4 --ot

1. got 2. pot
3. dot 4. hot
5. spot 6. on

Week 5 --at

1. bat 2. mat
3. cat 4. hat
5. that 6. that

Week 6 -- in

1. fin 2. win
3. pin 4. tin
5. chin 6. and

Week 7 --an

1. can 2. pan
3. fan 4. man
5. plan 6. to

Week 8 --ug

1. bug 2. hug
3. rug 4. dug
5. slug 6. get

Week 9 --ell

1. sell 2. yell
3. bell 4. fell
5. shell 6. not

Week 10 --est

1. west 2. test
3. nest 4. rest
5. chest 6. am

Week 11 --uck

1. buck 2. luck
3. duck 4. suck
5. truck 6. of

Week 12 --ing

1. ring 2. king
3. sing 4. wing
5. bring 6. into

September 9, 1999

Dear Parents,

As part of my Graduate Program from Western Washington University's School of Education, I will be conducting research in my classroom this 1999-2000 school year. My study involves identifying strategies first grade students use to spell words.

I will be collecting my information for twelve weeks. Student scores will be recorded as they would normally be recorded, and individual students will be asked to explain strategies they use to spell words.

I expect students to be involved with their learning as usual, however there may be occasion where an audio-taped interview or a video interview may help to document student learning. I am asking permission to be able to use any material (audio, visual, written or quotations) your child may share with me for my data collection and research analysis.

If you have any questions or concerns regarding this research study, feel free to contact me before or after school, or at home in the evenings. Please have your child return the bottom portion by Thursday, September 16.

Sincerely,

Traci Kiesser
428-6125 ext. 2613

.....

Traci Kiesser ___ may use / ___ may not use information regarding my child,

_____ for her research project this 1999-2000 school year.
first and last name

Signed_____ Date_____

Please return by Wednesday, September 16th. Thank You!

Case Study Interview Questions

1. How do you do those (point to a word)? How did you know how to spell _____?

2. What were you thinking about in you mind when you spelled this word?

3. How do you think it helps other kids spell when we learn our word families?

4. What do you do when you're writing in your journal and you come to a word you aren't sure how to spell but want to write? What else do you do?

5. Who do you know that is a good speller? Why do you think _____ is a good speller? (How do you know?)

6. How would you help someone learn how to spell?

7. How would you help someone who doesn't know how to spell a word?

8. How did you know _____ has so many letters in it? Show me how you did that.

9. Do you read everyday? Where?

10. Do you write everyday?

11. Do you ever see other people writing? When? Why do they write?

Assessing Phoneme Blending

Name_____

Task: The tester provides the segments of the word and the student is asked to put them together.

Directions: "I'm going to say some sounds. If you put the sounds together, they make a word: /m/ . . . /a/ . . . /n/. What word is that?" (To practice: I'll put these sounds together: /m/ . . . /a/ . . . /n/; man. Your turn. Put the sounds together into a word: /m/ . . . /a/ . . . /n/. What word is that?"

Examples: /n/ --/o/--/t/ (not); /c/--/a/--/t/ (cat).

Scoring: Teacher writes each response beside the word. A student receives one point for each correctly blended word.

1. /m/--/o/--/p/ _____
2. /m/--/a/--/n/ _____
3. /f/--/oo/--/d/ _____
4. /m/--/a/--/d/ _____
5. /g/--/e/--/t/ _____
6. /b/--/i/--/g/ _____
7. /f/--/a/--/l/ _____
8. /d/--/a/--/d/ _____
9. /t/--/e/--/n/ _____
10. /d/--/o/--/g/ _____

Reporting: Record total number of words correctly segmented by the student.

Assessing Phoneme Segmentation

Name_____

Task: Students provide the onset (initial consonant sound) and the rime (the vowel and consonant sounds that come after it).

Directions: "I will say a word, and you will tell me two sound parts in the word. My turn. I can say two sound parts in Mike. M-ike. Your turn. Say the two sound parts in Mike." (To practice: "I'll say the two sound parts in Mike. M-ike. Your turn. You say the two sound parts in Mike."

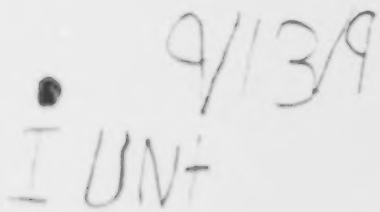
Examples: shop (sh-op); cat (c-at).

Scoring: Teacher writes each response beside the word. A student receives on point for each correctly segmented word.

1. /m/--/o/--/p/ _____
2. /m/--/a/--/n/ _____
3. /f/--/oo/--/d/ _____
4. /m/--/a/--/d/ _____
5. /g/--/e/--/t/ _____
6. /b/--/i/--/g/ _____
7. /f/--/a/--/l/ _____
8. /d/--/a/--/d/ _____
9. /t/--/e/--/n/ _____
10. /d/--/o/--/g/ _____

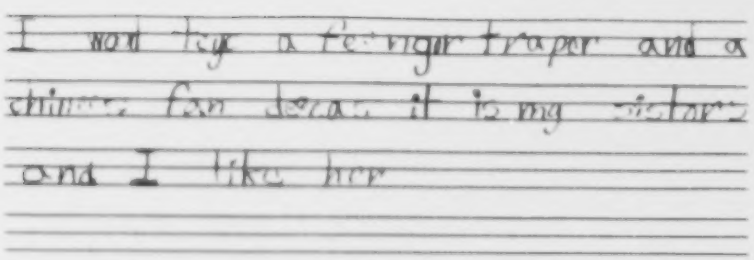
Reporting: Record the total number of words correctly segmented by the student.

Allison



Phase Two: Semi-Phonetic Spelling (September)

- spelling attempts to show some evidence of sound-symbol correspondence.
- represents a whole word with one, two or three sounds, e.g. w (one)
- uses an initial consonant to represent words in a sentence



Phase Three: Phonetic Spelling (March)

- Chooses letters on the basis of sound without regard for conventional spelling patterns, e.g. wood (would)
- Sounds out and represents all substantial sounds in a word, e.g. feengor (finger), Chinees (Chinese)
- Usually spells sight words correctly, e.g. like, is, my, it, and

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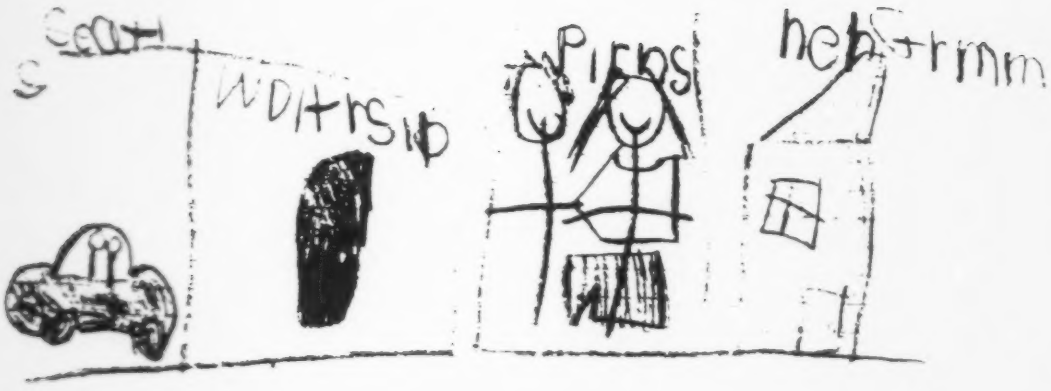
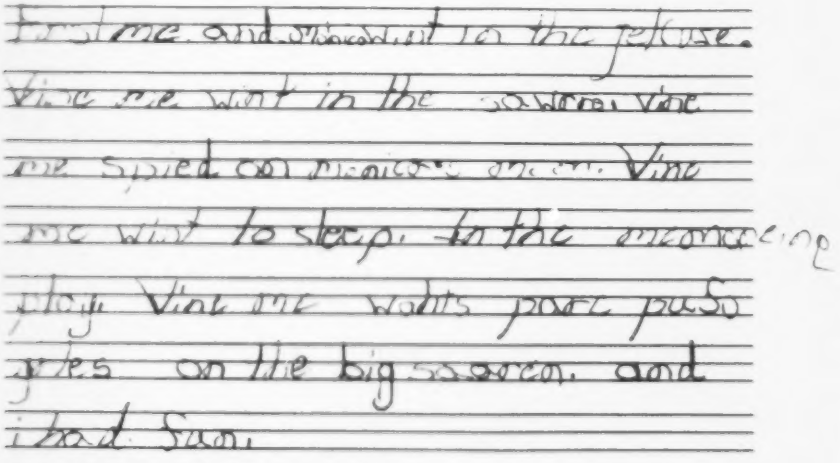
Brooke



Phase Two: Semi-Phonetic Spelling (September)

- Attempts to show some evidence of sound-symbol correspondence
- Relies on sounds which are most obvious to her
- Represents a whole word with one, two, or three letters, e.g. w (we), sip (space needle)
- Uses Mainly consonants to spell, e.g. Grmm (grandma)



Phase Three: Phonetic Spelling (March)

- Provides an almost perfect match between letters and sounds, e.g. frst (first)
- Chooses letters on the basis of sound without regard for conventional spelling patterns, e.g. vine (then), wint (went)
- Sounds out and represents all substantial sounds in a word, e.g. grles (girls), wohts (watch)
- Develops particular spellings for certain sounds often using self-formulated rules, e.g. v (th)

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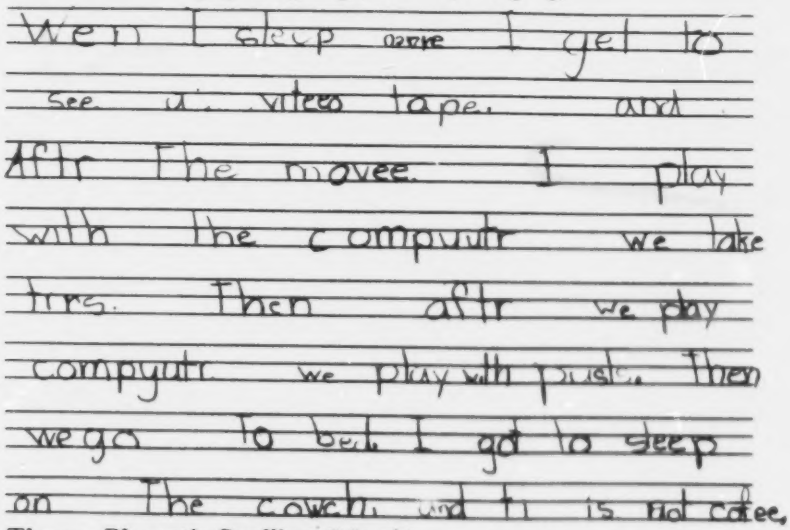
David

IM SWE e at the Preu

IM GWe hiY

Phase Two: Semi-Phonetic Spelling (September)

- spelling attempts to show some evidence of sound-symbol correspondence.
- represents whole words with one, two, or three letters, e.g. m (am), gwe (going)
- relies on sounds which are most obvious to him by identifying initial, medial and final consonants, e.g. gwe (going), swe e (swinging)


Wen I steep ozere I get to
See a. viteo tape. and
Aftr The movee. I play
with the compuutr we take
trns. Then aftr we play
compyutr we play with pusls. Then
we go to bed. I gt to steep
on The cowch. and ti is not cotee.

Phase Three: Phonetic Spelling (March)

- sounds out and represents all substantial sounds in a word, e.g. pusls (puzzles), viteeo (video), movee (movie)
- chooses letters on the basis of sound without regard for conventional spelling patterns, e.g. wen (when)
- usually spells common sight words correctly, e.g. get, to, the, then

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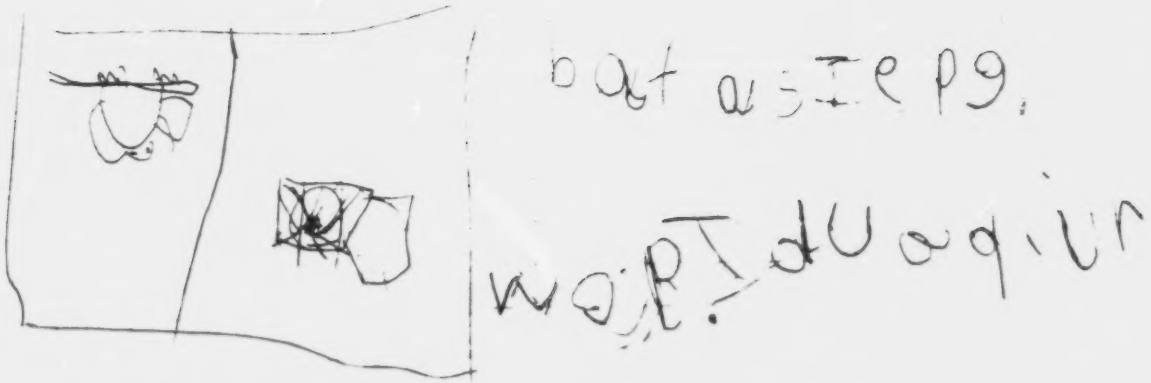
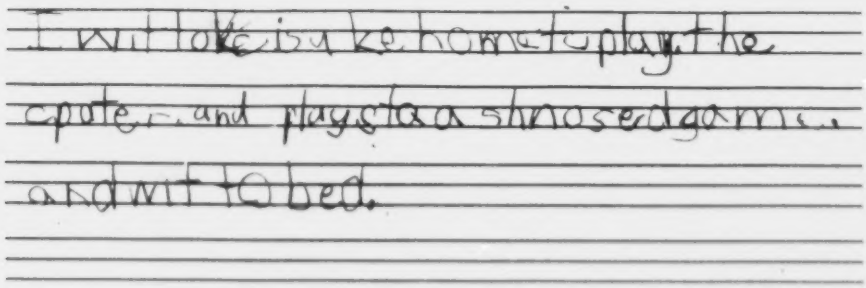
Jorge



Phase Two: Semi-Phonetic Spelling (September)

- spelling attempts to show some evidence of sound-symbol correspondence.
- uses left to right, top to bottom orientation of print
- represents a whole word with one, two or three sounds, e.g. w (one)
- uses an initial consonant to represent words in a sentence



Phase Three : Phonetic Spelling (March)

- chooses letters on the basis of sound without regard for conventional spelling patterns, e.g. wit (went)
- sounds out and represents all substantial sounds in a word, e.g. play staashnosed (play station), cputer (computer)
- is willing to experiment with spelling

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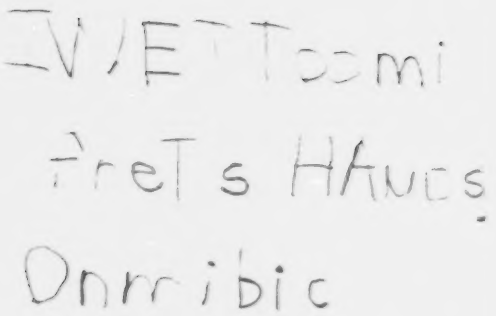
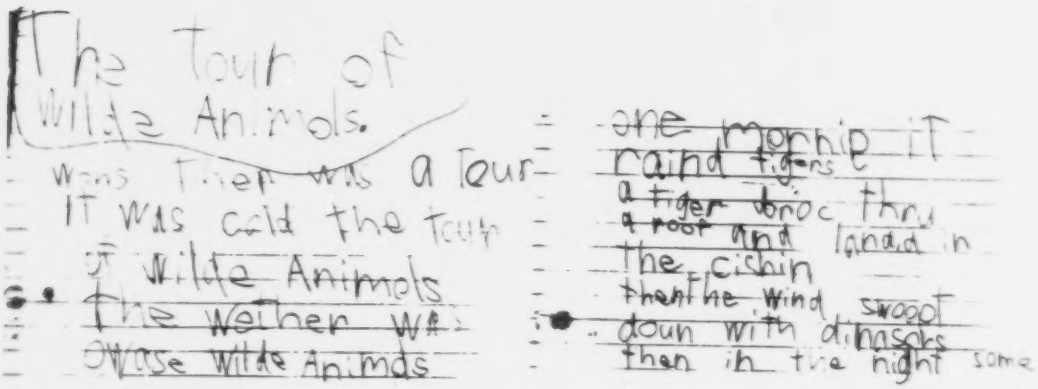
Jared



Phase Three: Phonetic Spelling (September)

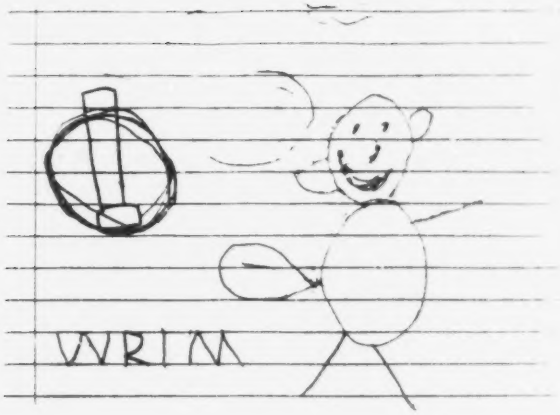
- chooses letters on the basis of sound without regard for conventional spelling patterns, e.g. wet (went), mi (my)
- sounds out and represents all substantial sounds in a word, e.g. bic (bike), frets (friends)



Phase Four: Transitional Spelling (March)

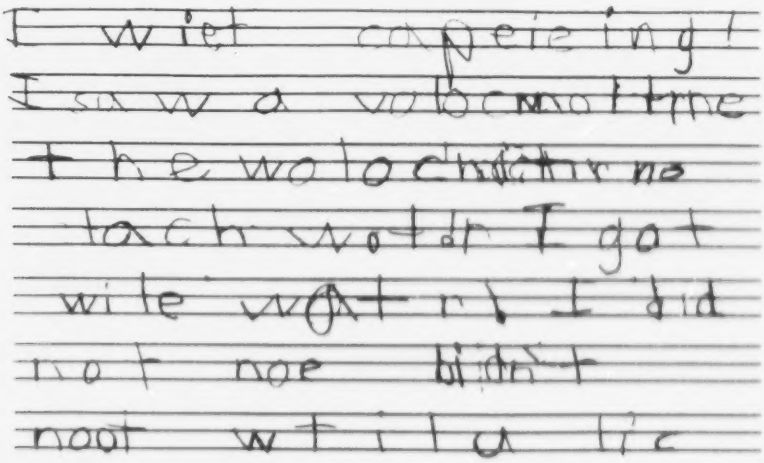
- uses letters to represent all vowel and consonant sounds in a word, placing vowels in every syllable, e.g. animols (animals), dinasors (dinosaurs)
- is beginning to use visual strategies, such as knowlegde of common letter patterns and critical features of words such as silent letters or double letters, e.g. swoopt (swooped)
- spells inflectional endings such as "ight" conventionally
- usually represents all syllables when spelling a word
- may over-generalize the use of silent 'e' as an alternative for spelling long vowel sounds

Kyle



Phase Two: Semi-Phonetic Spelling (September)

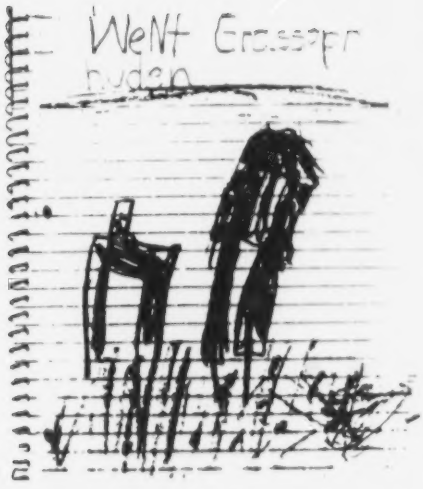
- spelling attempts to show some evidence of sound-symbol correspondence.
- uses left to right and top to bottom orientation of print
- represents a whole word with one letter, mainly consonants
- uses an initial letter to represent most words in a sentence



Phase Three: Phonetic Spelling (March)

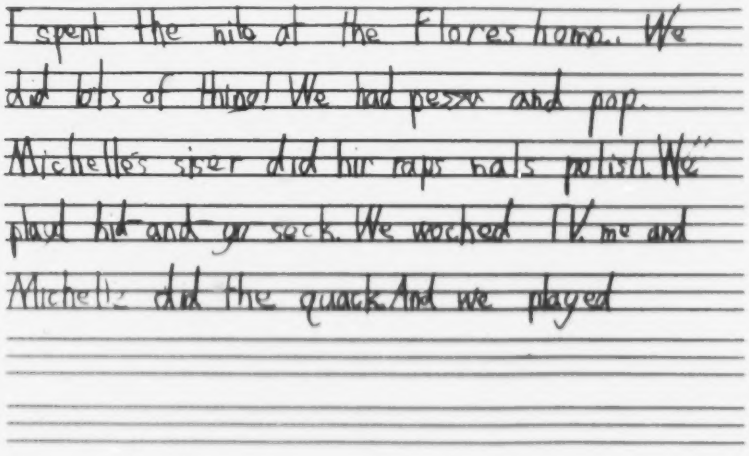
- uses more letters to represent words, including vowels
- chooses letter on the basis of sound without regard for conventional spelling patterns, e.g. wiet (went)
- uses some known patterns in words, e.g. . . ing
- usually spells commonly used sight words correctly, e.g., the, I, got, saw

Mary



Phase Three: Phonetic Spelling (September)

- sounds out and represents all substantial sounds in a word
- sometimes omits one letter of a two letter blend or digraph, e.g. . . er, ng.
- Usually spells commonly used sight words correctly, e.g. went


I spent the nite at the Flores home. We
did lots of things! We had pezza and pop.
Michelles siser did her reps nals polish. We
played hid and go seek. We wached TV me and
Michelle did the quack And we played

Phase Four: Transitional Spelling (March)

- uses letters to represent all vowel and consonant sounds in a word, placing vowels in every syllable
- usually represents all syllables when spelling a word
- is brginning to use visual strategies, such as knowledge of common letter patterns and critical features of words

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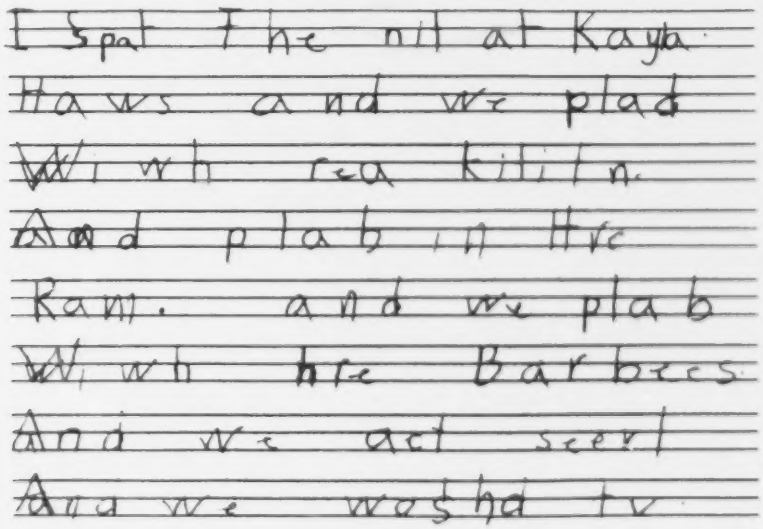
Tanya

Phase Two: Semi-Phonetic Spelling (September)

- represents a whole word with one sound.
- Uses an initial consonant to represent words in a sentence
- Relies on sounds which are most obvious to her
- Uses mainly consonants to spell words


I Spat The nit at Kaya
Haws and we plad
With rea kitin.
And plab in Hre
Ram. and we plab
With hre Barbecs
And we act seerl
And we washd tv

Phase Three: Phonetic Spelling (March)

- uses more letters to represent words, including vowels
- chooses letter on the basis of sound without regard for conventional spelling patterns, e.g. hre (her), seerl (cereal)
- usually spells commonly used sight words correctly, e.g., the, I, and, we

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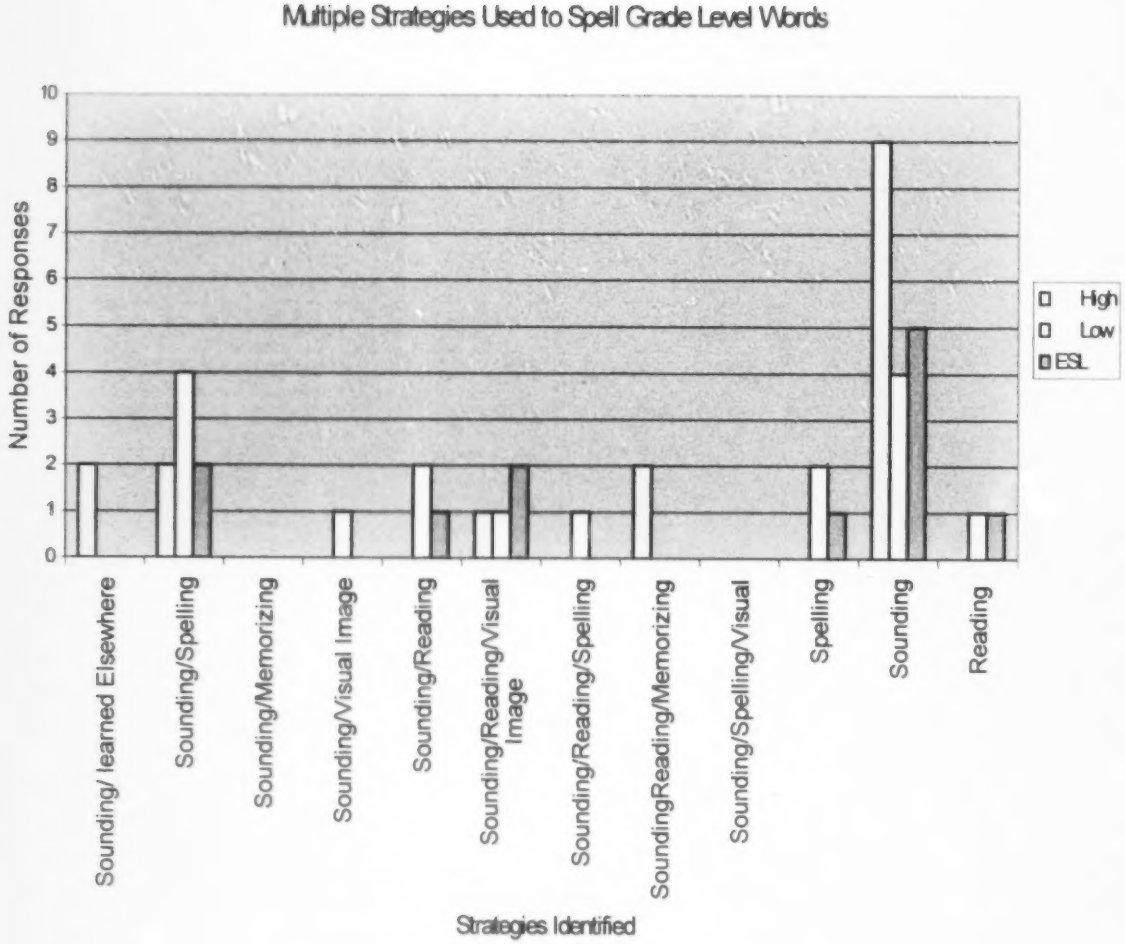
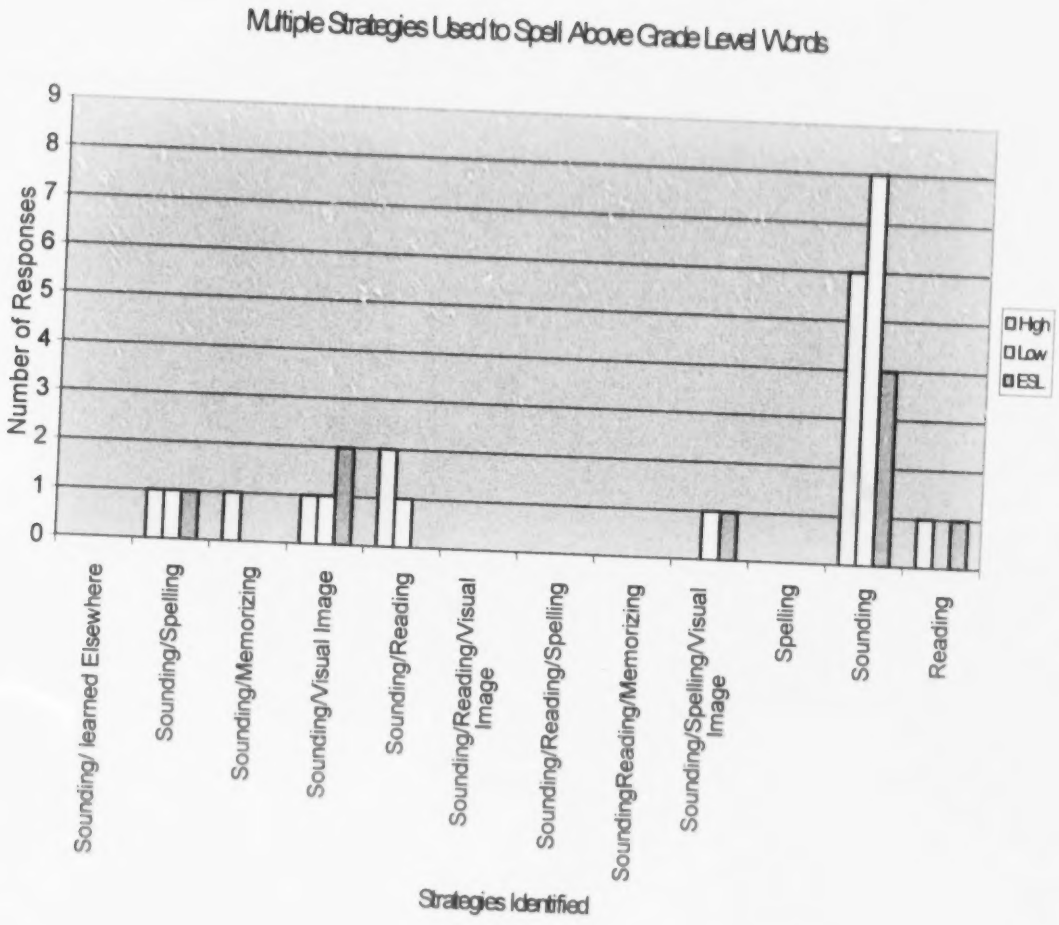

Multiple Strategies Used to Spell Grade Level Words
Number of Responses
0
1
2
3
4
5
6
7
8
9
10
Sounding/ learned Elsewhere
Sounding/Spelling
Sounding/Memorizing
Sounding/Visual Image
Sounding/Reading
Sounding/Reading/Visual Image
Sounding/Reading/Spelling
SoundingReading/Memorizing
Sounding/Spelling/Visual
Spelling
Sounding
Reading
Strategies Identified
High
Low
ESL



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